

Appl. No. 10/554302
Docket No. Z07865Q
Amdt. dated May 21, 2010
Reply to Office Action mailed on December 24, 2009
Customer No. 27752

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A plastic surface printing method comprising:
 - providing a metallic hot-stamping tool with a plastic-coated outer stamping surface using a heating device,
 - preheating a work piece surface[[.]] of a plastic work piece, to be printed; and
 - using moving the stamping surface to press a carrier foil against [[a]]the surface of the plastic work piece such that a pigment layer is transferred from the carrier foil onto the work piece,
 - wherein the work piece surface to be printed is preheated to a temperature between 80°C and 120°C,
 - wherein the stamping surface is heated to a temperature of between 140°C and 240°C, and
 - wherein preheating the work piece surface comprises:
 - sensing a characteristic of the work piece surface by means of a sensor, wherein the characteristic is selected from the group consisting of color, roughness, and material type; and
 - forwarding data indicative of the sensed characteristic to an evaluation device that subsequently adjusts a heating power of the heating device based, at least in part, on the sensed characteristic data.

2-3. (Canceled)

Appl. No. 10/554302
Docket No. Z07865Q
Amdt. dated May 21, 2010
Reply to Office Action mailed on December 24, 2009
Customer No. 27752

4. (Previously presented) The method according to Claim 1, wherein preheating the work piece surface comprises locally heating the work piece surface to be printed, by means of an infrared lamp or a fan heater.

5-6. (Canceled)

7. (Previously presented) The method according to Claim 1, wherein the preheated work piece surface comprises a surface of a plastic toothbrush.

8. (Previously presented) The method according to Claim 7, wherein the toothbrush surface consists of a thermoplastic plastic.

9. (Canceled)

10. (Previously presented) The method according to Claim 1, wherein the hot-stamping tool is coated with a silicon layer.

11. (Previously presented) The method according to Claim 10, wherein the silicone layer has a thickness between 1 and 4 mm.

12. (Previously presented) The method according to Claim 11, wherein the silicone layer has a thickness between 2 and 3 mm.

13. (Previously presented) The method according to Claim 1, wherein the stamping surface is preheated to a temperature between 200°C and 220°C.

14. (Currently amended) A plastic surface printing method, the method comprising:
providing a metallic hot-stamping tool with a plastic-coated outer surface
that forms a stamping surface;

Appl. No. 10/554302
Docket No. Z07865Q
Amdt. dated May 21, 2010
Reply to Office Action mailed on December 24, 2009
Customer No. 27752

preheating a ~~work piece~~ surface[[.]] of a plastic work piece, to be printed, to a temperature between 80°C and 120°C;

heating the stamping surface to a temperature between 140°C and 240°C;
and

using moving the heated stamping surface to press a carrier foil against [[a]] the surface of the preheated work piece such that a pigment layer is transferred from the carrier foil onto the work piece, wherein preheating the work piece surface comprises:

sensing a characteristic of the work piece surface, wherein the characteristic is selected from the group consisting of color, roughness, and material type, and

adapting a heating power of a work piece surface heater based, at least in part, on the sensed characteristic of the work piece.

15. (Canceled)

16. (Canceled)

17. (Previously presented) The method according to Claim 14, wherein preheating the work piece surface comprises locally heating the work piece surface using an infrared lamp.

18. (Canceled)

19. (Previously presented) The method according to Claim 14, wherein the hot-stamping tool is coated with a silicon layer that has a thickness between 2 and 3 mm.

20. (Previously presented) The method according to Claim 14, comprising heating the stamping surface to a temperature between 200°C and 220°C.

Appl. No. 10/554302
Docket No. Z07865Q
Amdt. dated May 21, 2010
Reply to Office Action mailed on December 24, 2009
Customer No. 27752

21. (Currently Amended) A plastic surface printing method comprising:

providing a metallic hot-stamping tool with a plastic-coated outer stamping surface using a heating device, preheating a work piece surface to be printed; and

using moving the stamping surface to press a carrier foil against a surface of the work piece such that a pigment layer is transferred from the carrier foil onto the work piece,

wherein the work piece surface to be printed is preheated to a temperature between 80°C and 120°C,

wherein the stamping surface is heated to a temperature of between 140°C and 240°C, and

wherein preheating the work piece surface comprises:

sensing a characteristic of the workpiece surface by means of a sensor; and

forwarding data indicative of the sensed characteristic to an evaluation device that subsequently adjusts a heating power of the heating device based, at least in part, on the sensed characteristic data.

22. (New) A plastic surface printing method, the method comprising:

providing hot-stamping tool having a stamping surface;

providing a counterpressure device;

preheating a surface of a plastic work piece;

preheating the stamping surface;

moving the heated stamping surface in a first direction and moving the counterpressure device in a second direction opposite the first direction;

pressing a carrier foil against the surface of the plastic work piece with the heated stamping surface and the counterpressure device such that a pigment layer is transferred from the carrier foil onto the plastic work piece.